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ENDOLYMPHATIC TREATMENT OF PUSUAL WOUNDS IN ANIMALS

Tangirov Q.J
Termez Institute of Agrotechnology and Innovative Development, Candidate of Veterinary Sciences, Associate Professor

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Abstract:

In the article, experimental work on endolymphatic treatment of animals in Samarkand and Navoi regions was conducted. The effects of many drugs on animals and methods of their endolymphatic treatment have been widely discussed.

Keywords: Clinical lymphology, Samarkand and Navoi regions, endolymphatic treatment, penicillin solution, animals.

In recent decades, mainly due to the effective work of domestic researchers, a new direction in medicine, clinical lymphology, has emerged, with data collected on the anatomy and physiology of the lymphatic system, as well as evidence of its involvement in diseases of various etiologies and pathogenesis. (Levin, 1986).

Its theoretical and experimental substantiation is based on D.D. Zerbino (1967), R.S.Orlov s (1972) and others have shown that the lymphatic system is in an integral anatomical relationship with the circulatory system, under the influence of hemodynamic processes. At the same time, it also determines the state of the circulatory system (S.U.Djumabaev, E.S.Djumabaev, 1992),

The lymphatic system is equally responsible for the state of microcirculation with arterial and venous vessels, which ensures the processes of homeostasis and metabolism (Yu.V. Vyrenkov, 1967; s.y. Djumabaev, 1985; A.I. Ibatullin et al., 1985; T. Panchenkov et al., 1986; Casely-Smith, 1977).

It is impossible to study the vascular system in isolation from the lymphatic system, as well as to treat patients without taking into account its activity.

The idea of using lymphatic vessels to deliver drugs, especially antibiotics, was first proposed in the early 1950s by Professor B.V. Said by Ognev.

Endolymphatic therapy is part of other methods and means of affecting the disease and the lymphatic system. This tool is especially effective in the treatment of oncological, purulent inflammatory, infectious and immuno-allergic diseases. Endolymphatic therapy has a more active effect on pathogenic factors in the lymphatic system, such as microorganisms, toxic metabolites, migrating tumor cells, etc., and increases the mobility of the immune system in the body. At the same time, it reduces the complication of ineffective toxic drugs when administered to the body in high doses. Thus, endolymphatic therapy is aimed at creating an optimal concentration of drugs in the lymphatic system "in pure form", thus ensuring maximum compatibility with microorganisms.

We conducted research on endolymphological treatment of 2-3-year-old karakul sheep brought from livestock farms of Samarkand and Navoi regions of the country. Initially, the anatomical and topographic structure of the lymphatic system obtained from the anterior legs of sheep carcasses was studied. Animals obtained in principle were divided into 5 heads in experimental and control groups. The shoulder and elbow area was fed with 0.5% novocaine solution and 2-3 skin-muscle wounds 3 cm deep and 3-5 cm long were formed using a sharp scalpel. Treatment was carried out after the wound was purulent.

The treatment system was as follows: in the first experimental group, penicillin solution was administered endolymphatically from 1 ml per 100 thousand ETs once a day, then the wound site was washed with a 0.5% solution of potassium permanganate; in the control group, a solution of penicillin in a dose of 100 thousand ETs was administered intramuscularly from 1 ml 3 times a day, and the wound was cleaned with a 0.5% solution of potassium permanganate.

For endolymphatic treatment, a cannula was placed on the lymph collector on the dorsolateral surface of the animal's palmar area. It is also possible to find a lymph collector by injecting a 1% solution of methylene blue into the tissue or placing a hemostatic tourniquet to create lymphostasis. At the same time, accurate knowledge of the topography of the lymph collectors allows accurate and rational cutting of tissue. It should be cut to a length of 5–6 cm. Once the mining flow is completely stopped, a lymph collector directed to the dorsal palmar artery is visually searched.

Before inserting the cannula into the lymph collector, it is necessary to prepare the cannula itself. For this, we used № 1 polychlorinated vinyl cannula. Its tip was cut at an angle of 45–60 °, slightly rounded to prevent slight displacement in the lymph collector and perforation of the wall. The lymph collector can be opened in two ways, using

the cannula itself or by cutting its wall using a scalpel-needle. After the collector wall was cut, 1-2 ml of 0.5% novocaine solution was injected intravenously using a thin needle for painless movement of the cannula. The cannula was pushed to a depth of 2-3 cm and fixed in 2-3 places using a ligature. This allowed it to be firmly attached to the vein and prevented it from falling. The cannula was pulled out of the wound and the wound was sutured with 4-5 knots. To ensure that the cannula was held firmly and prevented from slipping, it was fixed to the skin by suturing 1-2 knots. After administration of the antibiotic, a 1:10 heparin solution was administered to prevent thrombus formation in the cannula.

The penicillin solution was injected into the lymphatic system very slowly over a period of 3-5 minutes (this is a basic condition). Slow delivery of the solution ensures even distribution of the antibiotic throughout the veins. We performed a morphological examination of the blood composition during the experiments.

INSPECTION RESULTS.

Prior to endolymphatic therapy experiments, purulent exudate separation from the wound, an increase in local temperature, and pain on palpation were noted in animals. The general condition of the animals is low, with an increase in total body temperature to 40.9 ° C, an increase in pulse and respiration, i.e., 85-90; 35-42. The surface lymph node of the neck is enlarged, painful.

On the second day after the start of treatment, ie endolymphatic administration of penicillin solution to the animals of the experimental group, body temperature, pulse, respiratory rate returned to physiological normal. Decreased purulent exudate secretion from the wound. A slight rise in local temperature and pain, swelling of the tissues around the wound were noted. The surface of the neck is enlarged lymph node, hard consistency, painful, less mobile. The general condition of the animals is satisfactory.

On the third day, signs of regeneration were noted in the wound, the appearance of granulation tissue covered with wound juice at the bottom of which the dead tissue had moved. A slight rise in local temperature, swelling and pain in the tissue around the wound decreased. In its course, the wound has passed from the hydration phase to the dehydration phase. The superficial lymph node of the neck is slightly enlarged, no pain, mobile.

At 5–6 days, the wound was completely cleared of dead tissue and its cavity was filled with granulation tissue covered with wound juice. No fever, pain or swelling was noted around the wound, and the condition of the animals was satisfactory. The superficial lymph node of the neck is normal, mobile, painless, with a firm consistency.

During the experiment on the endolymphatic treatment of purulent lesions, we conducted hematological examinations, in which we calculated the amount of erythrocytes, leukocytes, lymphocytes. We conducted the inspections on days 5, 10, and 15, as shown in the table.

Hematological indications in the treatment of purulent wounds by endolymphatic and intramuscular transmission.

Blood counts	Statistical indicators	Beginner's level	Endolymphatic therapy			Intramuscular injection therapy		
			Inspection dates					
Erythrocytes (l)	M	5.6 0.5	5.9 0.5	5.7 0.5	5.9 0.5	5.8 0.5	5.8 0.5	5.7 0.5
Leukocytes (l)	M	7.16 0.3	7.9 0.36	7.7 0.3	7.2 0.2	8.1 1.2	8.0 0.4	7.2 0.0
Lymphocytes (l)	M	47.6 1.3	64 4.6	61 4.6	49.1 1.6	52.3 1.18	57.1 3.2	49.1 2.3
Number of animals	Number of heads	5	5	5	5	5	5	5

As a result of hematological examination, it was found that the initial values of erythrocytes - 5.6 0.5; leukocytes - 7.16 0.3; lymphocytes - 5.0 0.53 On day 5 of the examination it was found a significant increase in erythrocytes (5.9 0.53), leukocytes (7.9 0.36 slightly, the number of lymphocytes 64 4.6). This condition occurs due to the rupture of lymphocytes from the lymph nodes, as in adult animals they are the main site of formation of lymphocyte subpopulations.

At 8–10 days, the wound is practically filled with granulation tissue, it has shrunk, the wound process has entered a period of epithelialization and scarring. The condition of the animals is satisfactory.

On days 10-12, the wound is completely epithelialized and scar formation is underway. The condition of the animals is satisfactory.

With the end of the injury, the hematological parameters also return to baseline, ie, as shown in the table, erythrocytes 5.9 0.53; leukocytes - 7.2 0.2; lymphocytes -49.1 2.0.

In animals in the control group, purulent exudate secretion, swelling around the wound, local temperature rise, pain were noted before treatment. Body temperature rose to 41.2 ° C, pulse and respiration accelerated, i.e., 80–90, respectively; 35-42. The surface of the neck is enlarged lymph node, hard consistency, painful, less mobile.

On the third day of treatment, a decrease in total temperature to 40.5 ° C, purulent exudate separation from the wound, swelling around the wound, local temperature rise, pain were noted, Regional lymph nodes were enlarged, painful.

On the fifth day, a decrease in purulent exudate secretion from the wound was found. The process of clearing the wound of dead tissue and filling it with granulation tissue is underway. During the injury, a transition from the hydration phase to the dehydration phase was observed. Clinical indications are within the norm.

Hematological indicators show an increase in leukocytes from 7.16 to 0.3 to 8.1 to 1.2, and it has been noted that these indicators approach the initial state with wound healing.

In the following days, a gradual inflammatory reaction around the wound, swelling, loss of pain were observed in the control group animals. As the wound clears, the cavity fills with granulation tissue. On days 17-19, the wound is completely epithelialized and scar formation is underway.

CONCLUSION

Thus, studies have shown that endolymphatic treatment of purulent wounds in animals using antibiotics has a positive effect. As a result, the wound is cleared of dead tissue in a short time and the regeneration process is activated. A decrease in inflammatory reactions has been noted, which undoubtedly has an effect on the reduction of wound healing times compared to those in the control group. The results of clinical trials confirm the literature data on endolymphatic administration of antibiotics in the treatment of purulent inflammatory processes, and this method can be used in parallel with other methods of drug delivery.

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